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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/726,381	12/01/2000	Eiichi Koyama	001573	1263

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EXAMINER

PIERCE, JEREMY R

ART UNIT PAPER NUMBER

1771

DATE MAILED: 01/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-4

Office Action Summary

Application No.

09/726,381

Applicant(s)

KOYAMA ET AL.

Examiner

Jeremy R. Pierce

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6-17 and 19-21 is/are pending in the application.
- 4a) Of the above claim(s) 7-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6,17 and 19-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Amendment A has been filed on December 23, 2002 as Paper No. 3. Claims 1, 3, 4, 6, 17, 19, and 20 have been amended. Claims 2, 5, and 18 have been cancelled. The amendment is sufficient to overcome the 35 USC 112 and 102 rejections set forth in the last Office Action.

Election/Restrictions

2. Applicant's election of Claims 1-6 and 17-21 in Paper No. 3 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Objections

3. Claims 1, 3, 4, 6, 17, and 19-21 are objected to because of the following informalities: the phrase "three-dimension ceramics structure" should read "three-dimensional ceramics structure". Similarly, "three-dimension fabric" should read "three-dimensional fabric". Appropriate correction is required.

Claim Rejections - 35 USC § 103

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4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3, 4, 6, 17, and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katoka et al. (JP 2-149481, with translation provided) in view of Tokumitsu et al. (JP 4-45819, with English abstract; a full English translation has been ordered and will be provided in the next Office Action).

Katoka et al. disclose a ceramic body suitable for use as a filter, made by impregnating a woven base of organic fibers with ceramic slurry and firing the woven base to eliminate the organic material from the ceramic body (page 3). Katoka et al. also disclose it to be acceptable to laminate the woven base impregnated with ceramic feedstock (page 5), and to form it into various shapes. However, Katoka et al. do not disclose a ceramic structure comprising connecting yarns that connect the layers of fabric together. Tokumitsu et al. teach a three-dimensional air-cleaning filter comprising first and second knitted layers held together by connecting yarns (Abstract and Figures 6 and 7). Tokumitsu et al. teach that this structure reduces pressure drop in use and it also allows an adsorbent to be placed between the layers. It would have been obvious to one having ordinary skill in the art to form the ceramic body of Katoka et al. so that it comprised first and second layers held together by connecting yarns as taught by Tokumitsu et al., in order to produce a filter that is low in pressure drop against laminar and turbulent flow and can hold adsorbent material between the layers. With regard to

claims 3 and 19, it would be obvious to provide additional layers of ceramic fabric between the inner and outer faces in order to create better filtration, since Katoka et al. disclose laminating multiple fabrics to one another. With regard to claims 4, 6, 20, and 21, Katoka et al. disclose the material to be useful as a catalyst support (page 2).

Response to Arguments

6. Applicant's arguments with respect to Katoka et al. lacking the teaching of connecting yarns have been considered but are moot in view of the new ground(s) of rejection.

7. Applicant argues that Katoka et al. teach the fabrics are closely laminated at no interval, which is different from that of the present invention in which the upper and lower layers are disposed at a certain distance. However, this limitation fails to carry much weight in the claims because "a certain distance" can be any amount of distance. Two fabrics in contact with one another can still be disposed at "a certain distance" from one another. Is this "certain distance" measured from lower half of the upper fabric to the upper half of the lower fabric? Or could the distance be measured from the center of the thickness dimension of each fabric? In the latter case, there would always be "a certain distance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy R. Pierce whose telephone number is (703)

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605-4243. The examiner can normally be reached on Monday-Thursday 7-4:30 and alternate Fridays 7-4.

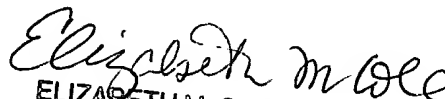
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (703) 308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Jeremy R. Pierce
Examiner
Art Unit 1771

January 15, 2003



ELIZABETH M. COLE
PRIMARY EXAMINER